



# POWER-BREAK® FIELD INSTALLABLE ACCESSORIES

DISTRIBUTION EQUIPMENT DIVISION PLAINVILLE, CT. 06062 USA.

GEH-3400  
Rev. G

## SHUNT TRIP DEVICE FOR 2000-4000A FRAMES

*Note: UL listing is voided when the circuit breaker is modified to add an accessory. Remove and discard the UL label.*

**WARNING:** When installing accessories, the breaker must be completely de-energized and disconnected from the electrical circuit. This is mandatory because breaker must be ON during certain stages of installation and testing.

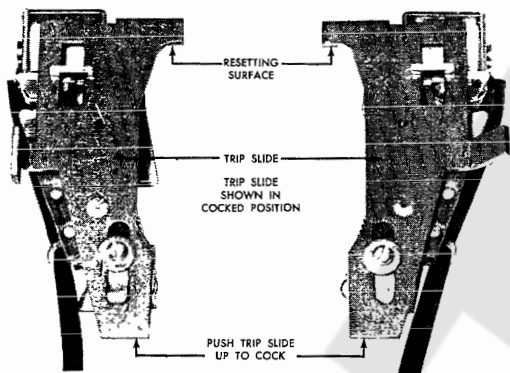


Fig. 1-L Fig. 1-R  
Shunt trip device - left side and right side mounted.

### TOOLS REQUIRED

- 5/16" Wide Blade Screwdriver
- Small Hammer
- Needle Nose Pliers
- 5/16" Wrench
- 9/16" Socket Wrench
- 5/16" Allen Hex Wrench
- Hacksaw and File

**WARNING:** After disconnecting the breaker from all electrical circuits, but before removing the breaker cover, the breaker must be in the off (open contact) condition and discharged. If it is still charged, close the breaker contacts, then push the off button to open the contacts. Repeated discharging of the mechanism from the breaker OFF condition by pushing the "Off" button may cause equipment damage.

### ELECTRICAL DATA

CAT NO.	VOLTAGE RATING	MAX INRUSH CURRENT-AMPS
TSST7	12 Vdc	4.2
TSST8	24 Vdc	2.0
TSST9	48 Vdc	1.0
TSST10	125 Vdc	1.0
TSST11	250 Vdc	0.2
TSST12	120 Vac	2.6
	240 Vac	5.2
TSST13	480 Vac	1.5
	600 Vac	1.9

### GENERAL DESCRIPTION

The shunt-trip device provides remote control capability to trip the circuit breaker. A cutoff switch is supplied as part of the shunt trip to automatically remove power from its coil when the circuit breaker is tripped.

Shunt-trip device Catalog Numbers with suffix R or RB are for right side mounting; those with suffix L or LB are for left side mounting.

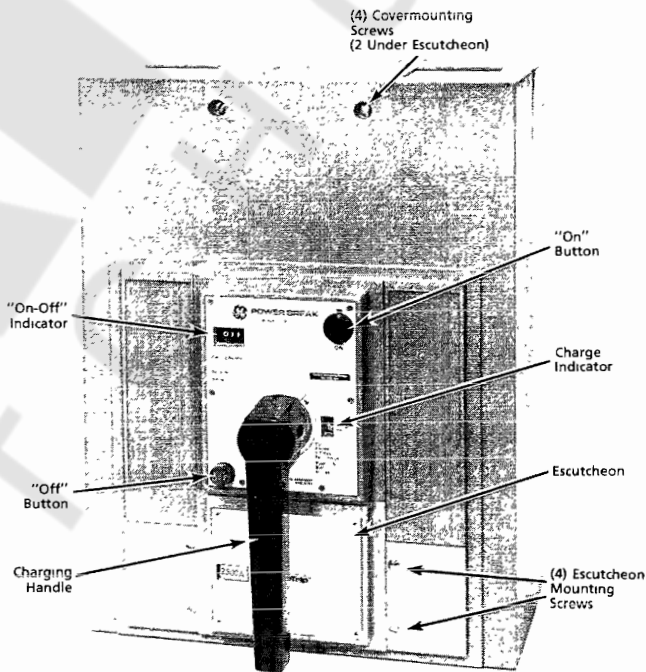


FIGURE 2

### COVER REMOVAL

Manual or electrically operated breakers. Figure 2.

Remove the escutcheon by unscrewing (4) escutcheon mounting screws, then unscrew (4) cover mounting screws and remove the cover.

Instructions

## MID COVER REMOVAL

Electrically operated breakers Fig. 3.

Remove the control box (if so equipped) by disconnecting the control box plug, and unscrewing the box mounting screws.

Unscrew the captive retaining screw Fig. 4 and lift off the mid cover assembly.

## CONTROL BOX OR TRIP UNIT REMOVAL MANUALLY OPERATED BREAKERS

In electronic controlled breakers the control box must next be removed. Fig. 3

In all MagneTrip breakers the trip unit must be removed. (Fig. 5) as follows:

1. Unscrew the trip unit line connection hardware.
2. Unscrew the trip unit load connection hardware.
3. Unscrew the (4) trip unit mounting screws.
4. Lift the trip unit out of the breaker.

## TRIP SLIDE REMOVAL

For left side mounted shunt trip Fig. 6,7.

1. Unhook the cover interlock spring from the cover interlock lever.
2. Remove the trip slide return spring.
3. Unscrew and remove the trip slide mounting hardware and lift off the trip slide.

## SHUNT TRIP INSTALLATION

Right or left side installation.

1. Block the breaker crossbar down at least 1" so that the mechanism resetting pin will be below the shunt trip slide resetting surface. Fig. 8.
2. Punch out a knockout as shown in Fig. 9 unless there are already accessories installed and sufficient room to add the wires to an existing hole. If the breaker does not have the



FIGURE 3

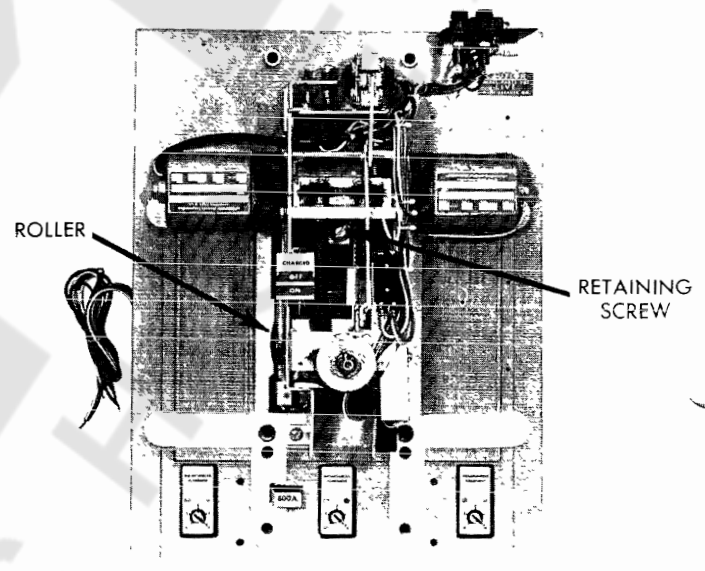


FIGURE 4

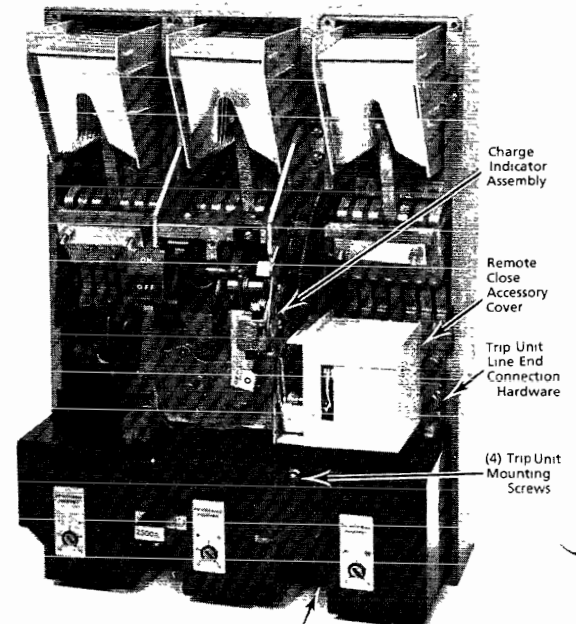


FIGURE 5  
Trip Unit Load End Connection Hardware



$\frac{1}{4}'' \times \frac{3}{8}''$  slot shown, use a hacksaw to cut a slot for the wires to pass from the shunt trip to its auxiliary switch. Use a file to finish the slot and remove all debris.

Fig. 9 shows the slot and knockout for a right side shunt trip. If a left side shunt trip is to be installed, do the work on the left pole and wall.

3. Position the shunt trip as shown in Fig. 10, then install the mounting screws through the slots shown in Fig. 9 into the tapped holes in the shunt trip but do not tighten.

4. Remove the crossbar blocking and observe that the shunt trip moves up against the latch mounting foot. If it does not, the device is incorrectly installed and the resetting surface is not above the resetting roll pin. If not corrected, the mechanism will be destroyed.

5. Push the shunt trip down to provide the  $\frac{1}{16}$  to  $\frac{3}{32}''$  gap shown and tighten the mounting screws to 15 inch pound torque.

6. Place the wires from the shunt trip to the auxiliary switch in the slots.

7. Remove the left hex bolt in the appropriate outer pole, discard the plain washer, and use the bolt and lockwasher to install the auxiliary switch as shown in Fig. 10. Hold the switch assembly straight while tightening the bolt to 30 inch pounds torque.

8. Feed the lead wires through the knockout and pull through until the strain relief wire tie contacts the base, then attach the outer strain relief wire tie.

### TRIP SLIDE REASSEMBLY

1. Reinstall the trip slide, tightening the trip slide mounting hardware sufficiently to minimize play but allow free motion. Note: if the breaker is equipped with a drawout trip interlock, it must be raised to allow its hook to engage the notch in the trip slide.

2. Reinstall the trip slide return spring and hook up the cover interlock spring.

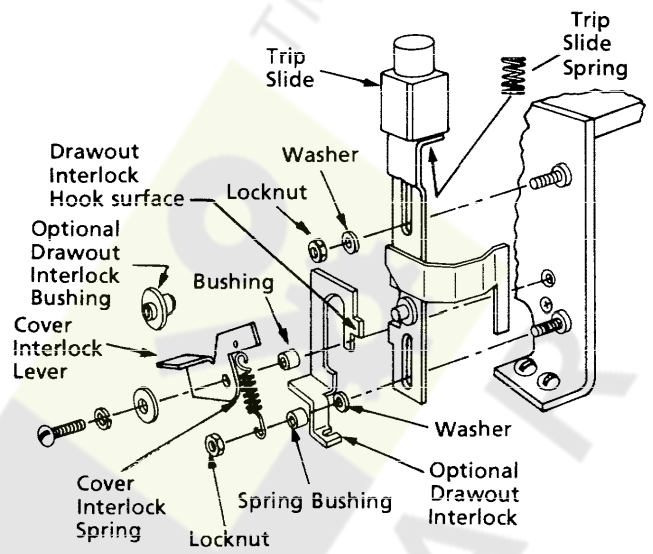


FIGURE 6

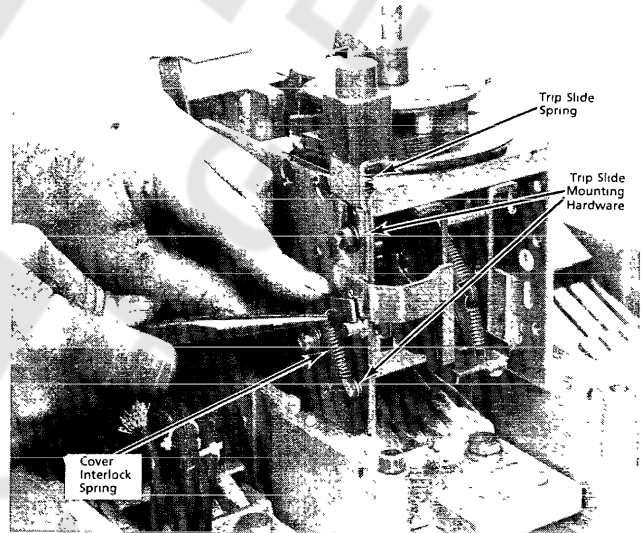


FIGURE 7

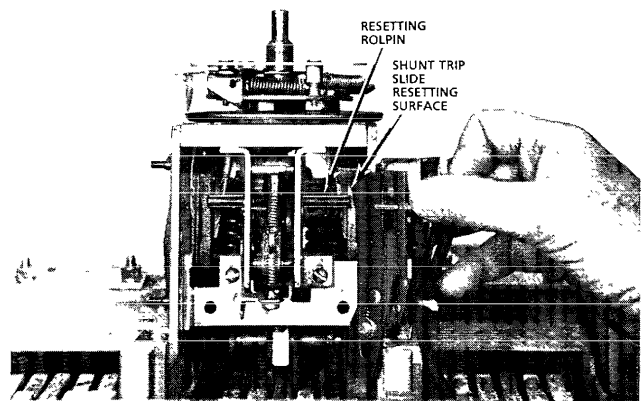


FIGURE 8



FIGURE 9

### TRIP UNIT REASSEMBLY-MANUAL BREAKER

1. Reinstall the control box (if so equipped) or:
2. Reinstall the MagneTrip trip unit (if so equipped) in the following sequence:
  - a. Install all mounting hardware into the trip unit, then position the trip unit in the base.
  - b. Screw in the (4) mounting screws but do not tighten.
  - c. Screw in the socket head load end cap screws but do not tighten.
  - d. Hand start the hex line end bolts in all holes and tighten to 100 inch pound torque.
  - e. Torque the load end hex socket bolts to 100 inch pound torque, then tighten the (4) mounting screws to 20 inch pound torque.

### COVER ASSEMBLY

1. Reinstall the electrical operator mid cover (if so equipped) taking care that the

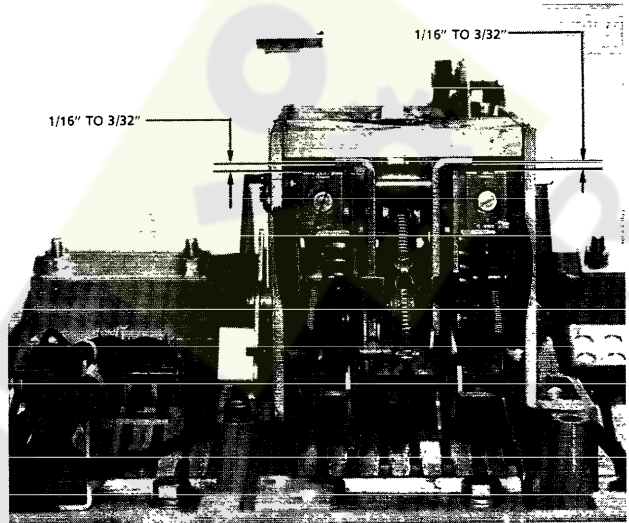


FIGURE 10

control box wires (if so equipped) do not get caught between the base and mid cover and the plug is passed up through the appropriate hole. Make sure the reset arms (Fig. 5) engage the rollers (Fig. 4), then tighten the retaining screw to lock the mid cover to the base.

2. Reinstall the control box on the mid cover (if so equipped).
3. Reinstall the breaker cover. In the case of an electrically operated device, make sure the terminal board is engaged in the cover slots.
4. Reinstall the escutcheon.

### FUNCTIONAL CHECKS

1. Manually charge the breaker mechanism, then apply 75% of shunt trip rated voltage to check the electrical and mechanical trip function. Verify that the auxiliary switch opens the shunt trip circuit.